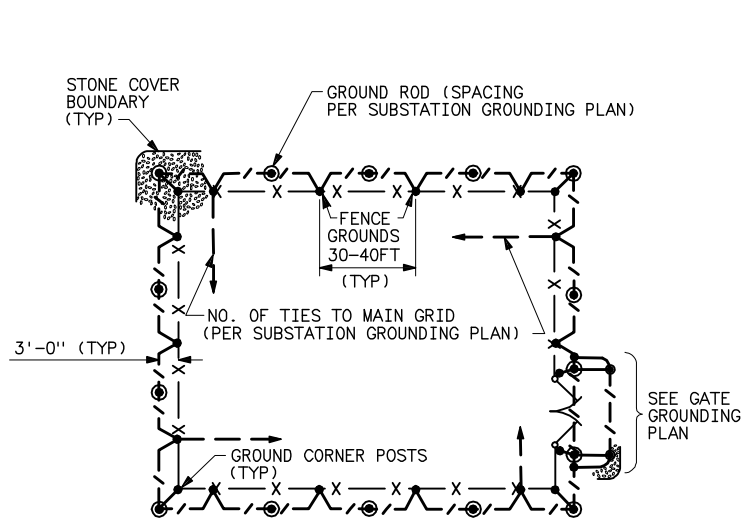
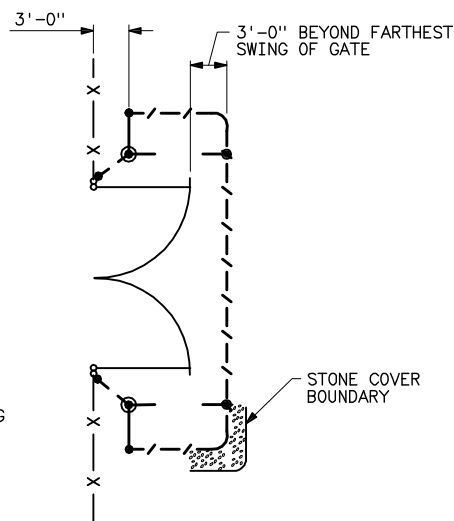


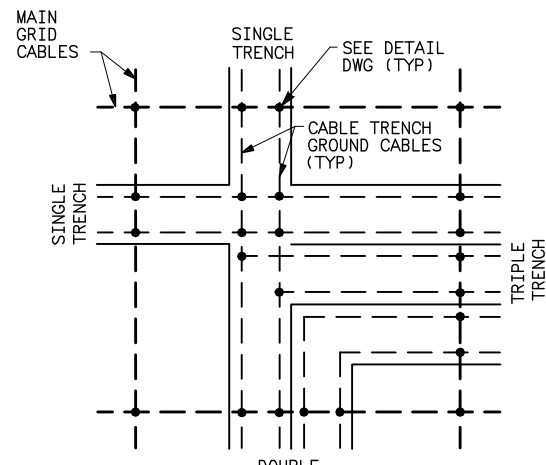
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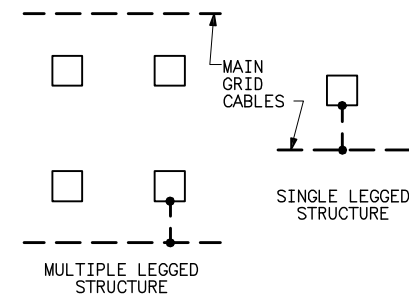
FENCE
GROUNDING PLAN



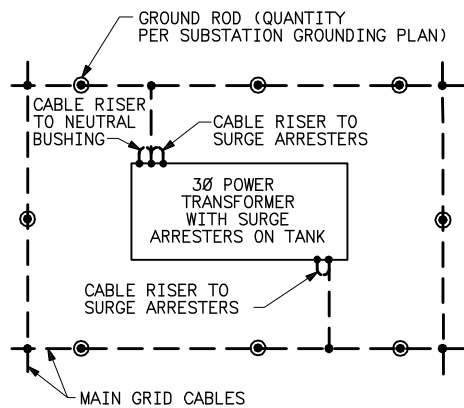
FENCE GATE
GROUNDING PLAN



CABLE TRENCH
GROUNDING PLAN



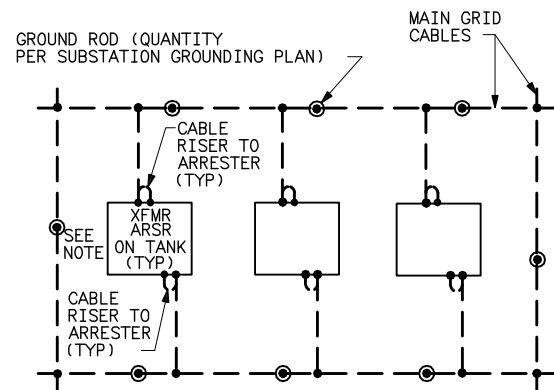
STRUCTURE
GROUNDING PLAN



3-PHASE POWER TRANSFORMER
GROUNDING PLAN

NOTE

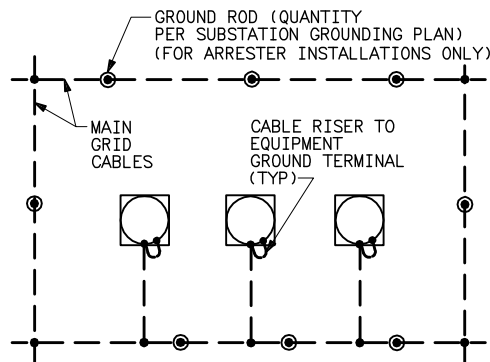
1. SIMILAR FOR 3 PH SHUNT REACTOR



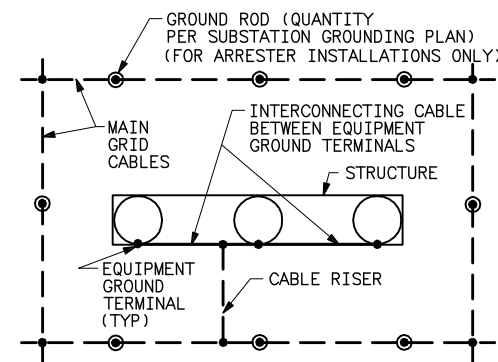
3 SINGLE-PHASE POWER TRANSFORMERS
GROUNDING PLAN

NOTES

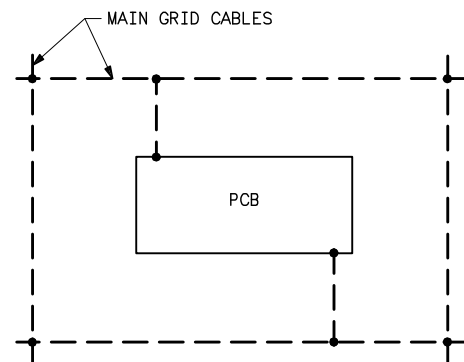
1. SEE PROJECT DRAWINGS FOR NEUTRAL BUSHING GROUNDING.
2. SIMILAR FOR 1 PH SHUNT REACTORS



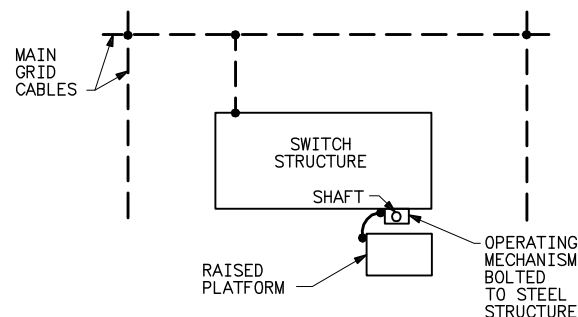
SEPARATELY MOUNTED INSTRUMENT
TRANSFORMERS AND SURGE ARRESTERS
GROUNDING PLAN



STRUCTURE MOUNTED INSTRUMENT
TRANSFORMERS AND SURGE ARRESTERS
GROUNDING PLAN



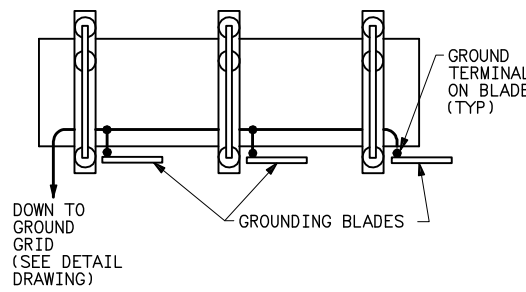
POWER CIRCUIT BREAKER
GROUNDING PLAN



AIR SWITCH OPERATING PLATFORM
GROUNDING PLAN

NOTE:

DO NOT GROUND PLATFORM DIRECTLY TO GROUND GRID.



AIR SWITCH GROUNDING BLADE
GROUNDING PLAN

EXPLANATION

- COPPER GROUND CABLE (BURIED)
- COPPER-CLAD STEEL GROUND CABLE (BURIED)
- COPPER GROUND CABLE (EXPOSED)
- COPPER GROUND CABLE (IN TRENCH)
- X- FENCE
- GROUND ROD
- ELECTRICAL GROUNDING CONNECTION
- GROUND CABLE RISER

NOTES

1. ALL GROUNDING SHALL BE INSTALLED IN ACCORDANCE WITH THE SUBSTATION WORKING DRAWINGS, THE STANDARD SUBSTATION GROUNDING DRAWINGS AND THE STANDARD INSTALLATION SPECIFICATION SECTION ON GROUNDING.
2. WHEN TWO OR MORE CABLE TRENCHES ARE LOCATED ADJACENT TO EACH OTHER, EACH TRENCH SHALL BE GROUNDED IN ACCORDANCE WITH THE INSTRUCTIONS AND THE DETAILS SHOWN FOR A SINGLE TRENCH. THE NO. 6 AWG COPPER CABLES FOR TRENCH COVER GROUNDING SHALL BE INSTALLED WITH ENOUGH SLACK TO ALLOW THE COVERS TO BE REMOVED AND PLACED FLAT WITHOUT INTERFERING WITH OTHER STRUCTURES.
3. NO. 4/0 AWG MINIMUM SIZE COPPER GROUND CABLES SHALL BE RUN DIRECTLY FROM THE GROUND GRID TO THE GROUND BLADES OF AIR SWITCHES.
4. PLACE GROUND RODS AT 20'-0" INTERVALS (MAXIMUM).

A	7-15-03 A7-RC	REVISED TITLE BLOCK ONLY.	
UNITED STATES DEPARTMENT OF ENERGY WESTERN AREA POWER ADMINISTRATION CORPORATE SERVICES OFFICE - LAKEWOOD, COLORADO			
SUBSTATION STANDARDS GROUNDING PLANS TYPICAL COMPONENTS			
DESIGNED O. PERKINS		APPROVED	ROSS M. CLARK ELECTRICAL ENGINEERING MANAGER
C A-E	MAY 14, 1999	31	1500